

ABSTRACT

This invention relates to searchlight type light devices including underwater light devices and automobile headlights. A light device in accordance with the present invention provides light beam compression along the optical axis and thus increases considerably the intensity or optical density of the beam. The light device includes a light source, a main concave reflector, and a lens projection system, the main concave reflector and the lens projection system being aligned relative to the optical axis and the light source being located between the reflector and the lens projection system, on the same optical axis. In addition, the main collecting pre-reflector lens is mounted between the light source and the main reflector, the main reflector's concave surface being implemented as a segment of sphere, and the light source being located in the focal point of such main reflector. Said main collecting pre-reflector lens has a focal length exceeding the main reflector's focal length by a factor of 1.25-2.0, its diameter is equal to or exceeds the main reflector diameter, and this lens is located at a distance from the main reflector which does not exceed half of the distance from the main reflector to the light source.